

REMARKS

In view of the above amendments and the following remarks, reconsideration of the objections and rejections contained in the Office Action of October 5, 2004 is respectfully requested.

The Examiner objected to the drawings due to various informalities. In particular, the Examiner asserted that Figures 17-19 require a "Prior Art" designation, and that some of the features recited in the original claims are not shown in the drawings. In view of these objections, a set of new formal drawings, including new formal Figures 17-19, have been prepared and submitted herewith so as to include the label "Prior Art" as required by the Examiner. In addition, as will be explained in more detail below, the original claims have been cancelled and replaced with a set of new claims. It is submitted that all of the features recited in the new claims are clearly illustrated in the original drawings. In view of the above, it is submitted that the Examiner's objections to the original drawings have either been overcome or are no longer applicable.

The Examiner objected to the specification due to several minor informalities. In order to address the Examiner's objections to the specification, and in order to make various additional editorial corrections, the entire specification and abstract have now been reviewed and revised. As the revisions are quite extensive, the amendments to the specification and abstract have been incorporated into the attached substitute specification and abstract. For the Examiner's benefit, a marked-up copy of the specification indicating the changes made thereto is also enclosed. No new matter has been added by the revisions, and entry of the substitute specification is thus respectfully requested. In view of the above, it is respectfully submitted that the Examiner's objections to the specification have been overcome.

The Examiner has objected to claim 2 due to an informality. In view of this objection, and in order to place the original claims in a preferred form, the original claims have all been cancelled and replaced with a set of new claims 6-22. The claims have been drafted so as to place the original claims in a preferred form, and so as to comply with all of the requirements of current U.S. practice. As a result, it is submitted that the Examiner's objections to the claims are no longer applicable.

The Examiner rejected claim 1 as being anticipated by the Kumakura reference (USP 6,592,783); and rejected claims 2-5 as being unpatentable over the Kumakura reference in view of

the Kinsman reference (USP 6,634,098). However, as indicated above, the original claims have been cancelled and replaced with new claims 6-22, including new independent claims 6, 13, and 17. For the reasons discussed below, it is submitted that the new claims are clearly patentable over the prior art of record.

New independent claim 6 is directed to an electronic component that comprises an insulative chip cover and a flip chip accommodated in a housing portion of the chip cover. An anisotropic conductive adhesive agent is applied to electrodes of the chip, and an insulative adhesive agent is applied to a bonding surface of the chip cover. The insulative heating agent has the same curing condition as the anisotropic conductive adhesive agent, and each of the adhesive agents is in a temporarily cured state.

As explained in detail in the specification, the anisotropic conductive adhesive agent allows electrodes of the chip to be electrically connected to electrodes on, for example, a circuit board when the electronic component is mounted on the circuit board. However, the anisotropic conductive adhesive agent is relatively weak, thereby allowing the electronic component to potentially become dislodged. Thus, the present invention further provides an insulative chip cover having a bonding surface to which an insulative adhesive agent is applied. The insulative adhesive agent applied to the bonding surface of the chip cover reinforces the adhesion of the electronic component to, for example, the circuit board. As a result, the possibility of the electronic component becoming dislodged after mounting is significantly reduced.

The Kumakura reference discloses an anisotropic conductive adhesive film to be applied to an IC chip 10 in order to mount the IC chip 10 to a circuit board 20. However, as the Examiner acknowledged in the Office Action, the Kumakura reference does not disclose or suggest an insulative chip cover. Thus, the Kumakura reference also does not disclose or suggest a chip cover having a bonding surface to which an insulative adhesive agent is applied.

Nonetheless, the Examiner asserted that the Kinsman reference teaches that it is well known to provide an insulative chip cover having a housing portion in which a flip chip is accommodated. In this regard, the Kinsman reference discloses an alignment device 20 and a cover 30 in which a semiconductor device 10 is to be located. The Kinsman reference further notes that a “substrate

attachment mechanism” 25 can be used to attach the alignment device 20 to a carrier substrate 40. However, the Kinsman reference does not disclose or suggest an insulative adhesive agent applied to a bonding surface of a chip cover. Moreover, the combination of the Kumakura reference and the Kinsman reference does not disclose or even suggest an anisotropic conductive adhesive agent applied to electrodes of a flip chip accommodated within a chip cover, *and* an insulative adhesive agent applied to a bonding surface of the chip cover. Therefore, one of ordinary skill in the art would not be motivated to modify or combine the references so as to obtain the invention recited in new independent claim 6. Accordingly, it is respectfully submitted that new independent claim 6 and the claims that depend therefrom are clearly patentable over the prior art of record.

New independent claim 13 is directed to a method of mounting an electronic component, including applying an anisotropic conductive adhesive agent to electrodes of a flip chip, and applying an insulative adhesive agent to a bonding surface of a chip cover having a housing portion in which the flip chip is accommodated. As noted above, the combination of the Kumakura reference and the Kinsman reference does not disclose or suggest applying an anisotropic conductive adhesive agent to electrodes of a flip chip, *and* applying an insulative adhesive agent to a bonding surface of a chip cover having a housing portion in which the flip chip is accommodated. Therefore, one of ordinary skill in the art would not be motivated to modify or combine the references so as to obtain the invention recited in new independent claim 13. Accordingly, it is respectfully submitted that new independent claim 13 and the claims that depend therefrom are clearly patentable over the prior art of record.

New independent claim 17 is directed to an electronic component to be mounted on a circuit board, comprising an insulative base having a mounting surface, an electrode portion on the mounting surface, and a space portion on the mounting surface, in which the space portion has no electrodes. An anisotropic conductive adhesive agent is applied to the electrode portion, and an insulative adhesive agent is applied to the space portion. The insulative adhesive agent has the same curing condition as the anisotropic conductive adhesive agent, and each of the adhesive agents is in a temporarily cured state.

Because each of the anisotropic conductive adhesive agent and the insulative adhesive agent is in a temporarily cured state in the invention recited in new independent claim 17, significant benefits can be achieved. In particular, as explained on page 16, lines 11-21 of the original specification, temporarily curing the adhesive agents allows long-term preservation and transportation, and provides an electronic component that can be quickly and easily mounted to a circuit board after being transported and stored, if necessary.

The Kumakura reference discloses an anisotropic conductive adhesive film to be applied to an IC chip 10, as explained above. The Examiner asserted that the Kumakura reference discloses that each of an anisotropic conductive adhesive agent and an insulative adhesive agent are temporarily cured, and refers to column 5 of the Kumakura reference in this regard. However, the Kumakura reference merely discloses that the adhesive agents are “cured.” In other words, the Kumakura reference does not disclose or suggest that each of the anisotropic conductive adhesive agent and the insulative adhesive agent is *temporarily* cured.

The Kinsman reference also does not disclose or even suggest an insulative adhesive agent applied to a space portion and an anisotropic conductive adhesive agent applied to an electrode portion, in which each of the adhesive agents is in a temporarily cured state. Therefore, one of ordinary skill in the art would not be motivated by the Kinsman reference to modify the Kumakura reference in order to obtain the invention recited in new independent claim 17. Accordingly, it is respectfully submitted that new independent claim and the claims that depend therefrom are clearly patentable over the prior art of record.

In addition to the distinctions discussed above, the Examiner’s attention is directed to the subject matter recited in the dependent claims which further distinguish the present invention from the prior art. In particular, each of dependent claims 12, 16, and 22 recites that *no insulative adhesive agent is applied to the electrodes*. Because the Kumakura reference clearly teaches that an insulative adhesive agent is applied to the electrodes of an electronic component, it is submitted that the prior art does not disclose, and in fact teaches away from, this feature.

In view of the above amendments and remarks, it is submitted that the present application is now in condition for allowance. However, if the Examiner should have any comments or suggestions to help speed the prosecution of this application, the Examiner is requested to contact the Applicant's undersigned representative.

Respectfully submitted,

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